

Currently Pending Claims as Amended for USSN 09/267,199

1. (Amended) A substantially purified nucleic acid molecule that encodes a maize or soybean tocopherol synthesis pathway enzyme or fragment thereof, wherein said maize or soybean tocopherol synthesis pathway enzyme is selected from the group consisting of:

- (a) deoxyarabiono-heptulosonate-P-synthase or fragment thereof;
- (b) putative deoxyarabiono-heptulosonate-P-synthase or fragment thereof;
- (c) dehydroquinase synthase or fragment thereof;
- (d) dehydroquinase dehydratase or fragment thereof;
- (e) putative dehydroquinase dehydratase or fragment thereof;
- (f) shikimate dehydrogenase or fragment thereof;
- (g) shikimate kinase or fragment thereof;
- (h) enolpyruvylshikimate-P-synthase or fragment thereof;
- (i) chorismate synthase or fragment thereof;
- (j) chorismate mutase or fragment thereof;
- (k) tyrosine transaminase or fragment thereof;
- (l) putative tyrosine transaminase or fragment thereof;
- (m) transaminase A or fragment thereof;
- (n) putative transaminase A or fragment thereof;
- [(o) 4-hydroxyphenylpyruvate dioxygenase or fragment thereof;]
- [(p)](o) homogentisic acid dioxygenase or fragment thereof; and
- [(q)](p) geranylgeranylpyrophosphate synthase or fragment thereof.

2. (Amended) The substantially purified nucleic acid molecule according to claim 1, wherein said nucleic acid molecule comprises a nucleic acid sequence selected from the

group consisting of [SEQ ID NO: 1 through SEQ ID NO: 627.]SEQ ID NO: 1, SEQ ID NO: 100, SEQ ID NO: 147, SEQ ID NO: 153, SEQ ID NO: 158, SEQ ID NO: 161, SEQ ID NO: 180, SEQ ID NO: 184, SEQ ID NO: 199, and SEQ ID NO: 232.

Please add the following claims:

10. (Added) An isolated nucleic acid molecule comprising a sequence that hybridizes under conditions of 2.0 X sodium chloride/sodium citrate (SSC) at about 65°C to a nucleic acid molecule having a sequence selected from the group consisting of SEQ ID NOs: 1, 100, 147, 153, 158, 161, 180, 184, 199, and 232 and complements thereof.

11. (Added) The isolated nucleic acid molecule, according to claim 10, wherein said nucleic acid molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 100, SEQ ID NO: 147, SEQ ID NO: 153, SEQ ID NO: 158, SEQ ID NO: 161, SEQ ID NO: 180, SEQ ID NO: 184, SEQ ID NO: 199, and SEQ ID NO: 232.

12. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a maize deoxyarabiono-heptulosonate-P-synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:1.

13. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a soybean deoxyarabiono-heptulosonate-P-synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:100.

14. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a soybean putative deoxyarabiono-heptulosonate-P-synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:147.

15. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a maize dehydroquinase synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:153.
16. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a maize putative dehydroquinase dehydratase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:158.
17. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a maize shikimate kinase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:161.
18. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a soybean shikimate kinase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:180.
19. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a soybean enolpyruvylshikimate-P-synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:184.
20. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a maize chorismate synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:199.
21. (Added) The isolated nucleic acid molecule according to claim 10, wherein said nucleic acid molecule encodes a soybean chorismate synthase and said nucleic acid molecule comprises a nucleic acid sequence of SEQ ID NO:232.

22. (Added) An isolated nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 100, SEQ ID NO: 147, SEQ ID NO: 153, SEQ ID NO: 158, SEQ ID NO: 161, SEQ ID NO: 180, SEQ ID NO: 184, SEQ ID NO: 199, and SEQ ID NO: 232.